

ABSTRACT

A regulator for converting energy from an input source to a voltage of an output. The regulator comprising at least two conduction switches to conduct energy from the input source to the output. Each of the conduction switches operated at approximately 50% duty cycle. At least two inductors in communication with the at least two conduction switches, the at least two inductors wound together on a common core and each inductor having a polarity such that DC currents in the inductors cancel each other. The inductors having a coefficient of coupling approximately greater than 0.99. At least two freewheeling switches in communication with the at least two conduction switches to provide a path for current during non-conduction periods. A drive signal generator to generate drive signals for controlling the at least two conduction switches.